

**Claims**

1. A method of inhibiting proliferation of cells which comprises the step of:  
    contacting cells with an amount of vpr protein or a  
5 functional fragment thereof effective to inhibit cell proliferation; or  
    introducing into cells a nucleic acid molecule that comprises a nucleotide sequence that encodes vpr protein or a functional fragment thereof whereby said nucleotide sequence  
10 is expressed by said cells.
2. The method of claim 1 wherein said cells are differentiated.
3. The method of claim 1 wherein said cells are undifferentiated.
- 15 4. A method of preventing lymphocyte activation which comprises the step of:  
    contacting a lymphocyte cell with an amount of vpr protein or a functional fragment thereof effective to prevent activation; or  
20      introducing into cells a nucleic acid molecule that comprises a nucleotide sequence that encodes vpr protein or a functional fragment thereof whereby said nucleotide sequence is expressed by said cells.
5. The method of claim 1 wherein said cells are T cells,  
25 B cells or monocytes.
6. A method of treating an individual diagnosed with or suspected of suffering from diseases characterized by hyperproliferating cells which comprises the step of administering to said individual an effective amount of a  
30 pharmaceutical composition comprising

- a) vpr protein or a functional fragment thereof, or a nucleic acid molecule that comprises a nucleotide sequence that encodes vpr protein or a functional fragment thereof; and
- b) pharmaceutically acceptable carrier.

5 7. A method of treating an individual diagnosed with or suspected of suffering from an autoimmune disease which comprises the step of administering to said individual an effective amount of a pharmaceutical composition comprising

- a) vpr protein or a functional fragment thereof,
- 10 or a nucleic acid molecule that comprises a nucleotide sequence that encodes vpr protein or a functional fragment thereof; and
- b) pharmaceutically acceptable carrier.

8. The method of claim 7 wherein said autoimmune disease is selected from the group consisting of: rheumatoid arthritis,  
15 multiple sclerosis, Sjogren's syndrome, sarcoidosis, insulin dependent diabetes mellitus, autoimmune thyroiditis, reactive arthritis, ankylosing spondylitis, scleroderma, polymyositis, dermatomyositis, psoriasis, vasculitis, Wegener's granulomatosis, Crohn's disease, ulcerative colitis, Lupus,  
20 Grave's disease, myasthenia gravis, autoimmune hemolytic anemia, autoimmune thrombocytopenia, asthma, cryoglobulinemia, primary biliary sclerosis and pernicious anemia.

9. A method of treating an individual who has a transplanted organ or tissue which comprises the step of  
25 administering to said individual an effective amount of a pharmaceutical composition comprising

- a) vpr protein or a functional fragment thereof, or a nucleic acid molecule that comprises a nucleotide sequence that encodes vpr protein or a functional fragment thereof; and
- 30 b) pharmaceutically acceptable carrier.

10. A conjugated composition comprising:

- a first moiety which comprises isolated vpr or a rip-1-binding fragment thereof;

and a second moiety which comprises an active agent selected from the group consisting of a drug, a toxin, a nucleic acid molecule and a radioisotope;

wherein said first moiety is covalently linked  
5 to said second moiety.

11. The conjugated composition of claim 10 wherein said first moiety comprises vpr.

12. The conjugated composition of claim 10 wherein said second moiety comprises a nucleic acid molecule.

10 13. The conjugated composition of claim 10 wherein said second moiety comprises a DNA molecule.